

Draft Oleander XBT Data Guide

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We are currently reviewing the MEDS and ICES XBT data guidelines and will be our XBT data into compliance over the next several months. In the meantime, we are providing a provisional dataset for use in developing interactions with the Oleander project.

The data are provided for each Oleander cruise (one crossing from New York to Bermuda) as a MatLab structure with the variable name xbt. Each drop is in a different element of the structure. xbt(1).varname refers to drop 1. xbt(2).varname refers to drop 2. The varnames are described below.

The data is downloaded from the ship in a native SEAS2000 format. The data are converted to an ASCII NODC format and manipulated in MATLAB. Each drop is examined visually and compared to recorded bottom depths. A flag is determined for where measurements are deeper than the bottom and where measurements are shallower than where the probe has apparently equilibrated to sea water temperatures. These flags will be modified in future versions of the data to more closely follow the MEDS and ICES guidelines. The surface XBT values are also compared to surface thermosalinograph data and surface temperature-depth recorder data. Only data is flagged as valid when there is confidence that the values accurately reflect sea water temperatures.

Currently to access valid raw temperature and depth data the following notation should be used

Accesses valid depth data

```
xbt(1).depth(xbt(1).min_depth_row: xbt(1).max_depth_row)
```

Accesses valid temp data

```
xbt(1).temp(xbt(1).min_depth_row: xbt(1).max_depth_row)
```

The inflection point data is trimmed for incorporation into NEFSC databases and the following notation should be used

Accesses valid inflection point depth data

```
xbt(1).inflecpnt_depth_save
```

Accesses valid inflection point temp data

```
xbt(1).inflecpnt_depth_save
```

Description of xbt structure field names

.depth	Raw depth data from the XBT file
.temp	Raw temperature data from the XBT file
.drop	A number corresponding to the drop number recorded on the log sheet by the ship rider
.date	Serial date number (MATLAB format)
.timeGMT	HH:MM in GMT of drop
.timeGMThour	Hour (HH) of drop
.timeGMTmin	Minute (MM) of drop
.lat	Latitude of drop in decimal degrees
.lon	Longitude of drop in decimal degrees
.max_depth_row	the row in .depth and .temp that represents to maximum row of good data. Typically, this row indicates where the XBT hit bottom
.min_depth_row	the row in .depth and .temp that represents to minimum row of good data. Typically, this row indicates where the XBT data is determined unbiased from the air temperature
.cpr_row	A value to match the xbt drop data with the cpr log data. The cpr variable is not passed to SUNY.
.hitbottom	Y/N indicates whether the XBT hit bottom or not
.inflectpnt_depth	A subset of depth identified as inflection points by SEAS2000 in producing the NODC format XBT data.
.inflectpnt_temp	A subset of temp identified as inflection points by SEAS2000 in producing the NODC format XBT data.
.datenum	Serial date number (MATLAB format) in scientific notation
.inflectpnt_temp_save	A subset of inflectpnt_depth, which is truncated as those > depth(min_depth_row) and those <depth(max_depth_row) for inclusion in the NEFSC XBT database
.inflectpnt_depth_save	These inflectpnt_temp, which is further truncated as those > temp(min_depth_row) and those <temp(max_depth_row) for inclusion in the NEFSC XBT database

Please contact Jon Hare (jon.hare@noaa.gov) with any comments, concerns or suggestions.